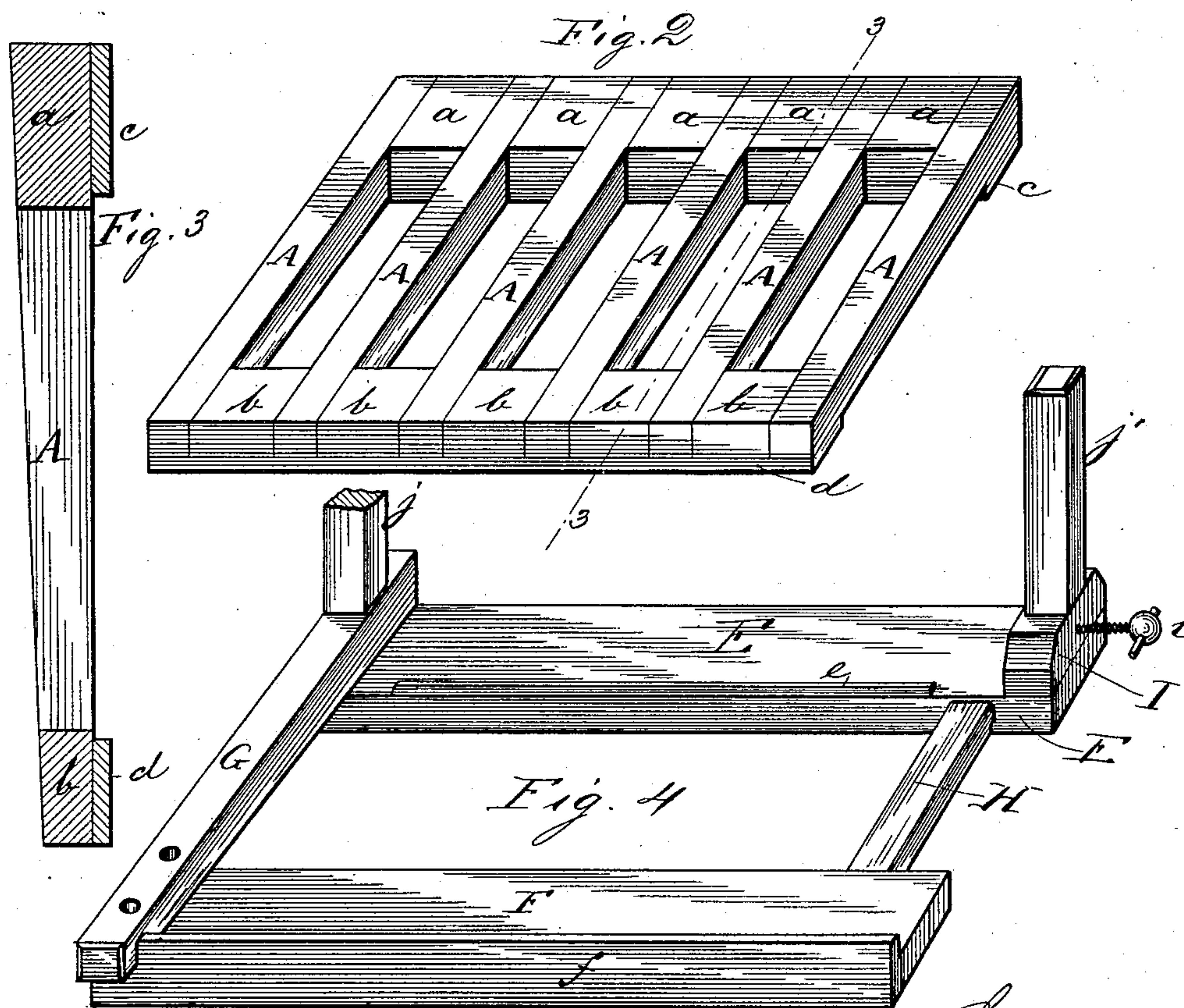
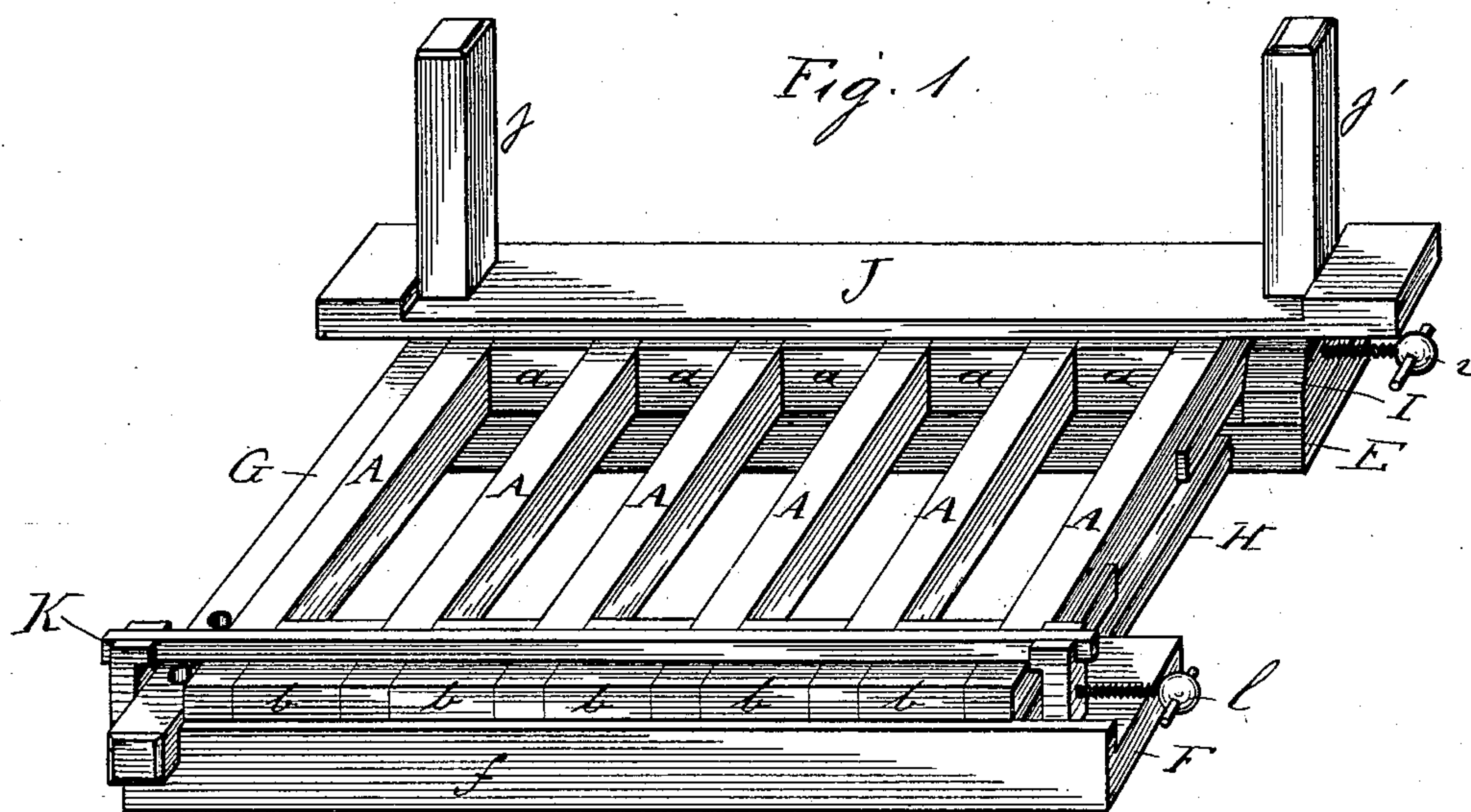


(No Model.)

T. STEINERT.
CLAMPING FRAME.

No. 407,698.

Patented July 23, 1889.



Witnesses:
Harris W. Huchel
Otto D. Doherty

Inventor:
Theodor Steinert
By Wm. H. Kott

UNITED STATES PATENT OFFICE.

THEODOR STEINERT, OF CHICAGO, ILLINOIS.

CLAMPING-FRAME.

SPECIFICATION forming part of Letters Patent No. 407,698, dated July 23, 1889.

Application filed February 19, 1889. Serial No. 300,501. (No model.)

To all whom it may concern:

Be it known that I, THEODOR STEINERT, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clamping-Frames, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to the manufacture of upright pianos, and, more particularly, of the back-frames thereof, being composed of a series of timbers separated by blocks and rigidly connected therewith to make the whole a strong and durable frame-work for supporting the cast-iron string-frame. These timbers and separating-blocks heretofore were glued together one by one, whereby the process of manufacture was a very slow one; and it has been the object of this my invention to provide a device that will enable me to glue the entire frame in one operation and to insure its being square and true; and with that object in view my invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a perspective view of the piano-back frame as placed and secured in the gluing-frame; Fig. 2, a perspective view of the piano-back frame as completed and removed; Fig. 3, a section on line 3 3 in Fig. 2, and Fig. 4 a perspective view of the gluing-frame.

Corresponding letters of reference in the several figures of the drawings designate like parts.

The piano-back frame consists of the square timbers A, planed to have two parallel sides and two sides tapering. These timbers A are secured parallel with each other by gluing separating-blocks *a* and *b* between the same at the opposite ends thereof and by securing under their upper ends a plate of wood *c* and under their lower ends a plate of wood *d*, also by gluing.

The gluing-frame consists of two flat timbers E and F, secured a proper distance apart at one end by a bar of wood G, rigidly secured upon these timbers E and F, and at their opposite ends by a stringer H, framed between, the tenons of which enter mortises in the timbers E and F. The bar G being secured upon timber F by wood-screws, the

distance between the bars E and F may be varied to suit different-sized piano-frames, for which purpose different-length stringers H are to be provided. An upwardly-projecting plate *f* is secured against the lower edge of timber F, which, together with bar G, will provide shoulders of an angle of ninety degrees as a gage for holding the piano-back frame to be square while being glued, and upon the lower edge of timber E is secured a strip *e* as a gage for holding the plate *c* of the piano-back frame in proper positions. Upon the end opposite to bar G is secured upon timber E a block I, through which a clamp-screw *i* is tapped, and upon each of the bars G and block I is fixed a post *j* and *j'* for a bar J, having square holes at or near its ends that will fit upon posts *j* and *j'* to tie the same and thereby prevent their spreading or a bending of timber E while clamping the piano-back frame between bar G and block I by screw *i*. The lower end of the piano-back frame is contracted by a removable joiner's clamp K, provided with clamp-screw *l*.

Formaking the piano-back frame, the parts A, *a*, *b*, *c*, and *d*, all being planed to proper sizes, are warmed on or in a stove or oven, and are then coated at their joining-faces with glue and are then placed in the gluing-frame in proper relative positions, and after the clamp-screws *i* and *l* are tightened a series of common joiner's clamps will be attached in the usual manner over timber E and bar J and over timber F and blocks *b* for compressing and holding the plates *c* and *d* in close contact with the blocks *a* and *b* and with the ends of timbers A until the glue has hardened, when the piano-back frame is completed and may be removed from the gluing-frame for another one to be placed therein.

What I claim is—

The frame for the purpose described, consisting of timbers E and F, connected by bar G and stringer H, and having block I, with clamp-screw *i*, and posts *j j'*, engaging bar J, said timber F having projecting plate *f*, and timber E having strip *e*, all substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THEODOR STEINERT.

Witnesses:

WILLIAM H. LOTZ,
OTTO LUBKERT.